IN THE CLAIMS:

Please amend the claims as shown below:

(All the pending claims have been reproduced below)

1. (Originally submitted) A method of detecting extended range motion and counting moving objects using an acoustics microphone array, the method comprising:

using an optimized beamforming process to create a plurality of acoustic beams comprised of a plurality of focused listening directions;

detecting the presence of one or more of a plurality of objects moving through the acoustic beams;

verifying that the objects are valid objects to be counted; and

verifying a plurality of valid directional information of the objects within the acoustic beams.

2. (Originally submitted) The method of claim 1, further comprising computing a power spectrum for each of a plurality of acoustic beams.

3. (Currently amended) The method of claim 2 ~~1~~, further comprising selecting a single loudest spectral component from a plurality of spectral components using a first beamforming process.

4. (Originally submitted) The method of claim 3, further comprising computing a bearing to each of the spectral components using the first beamforming process.

5. (Originally submitted) The method of claim 4, further comprising generating a steering vector for each of a plurality of principal azimuthal directions.

6. (Originally submitted) The method of claim 5, further comprising generating the steering vector for a trip line direction.

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7. (Currently amended)   The method of claim 6, further comprising computing a correlation matrix with regularization at each of a plurality of frequencies using the spectral components across all the plurality of <u>frequencies (step 620)</u> ~~frequencies5, step 620~~.

8. (Currently amended)   The method of claim 7, further comprising computing a plurality of optimum weight <u>vectors (Block 425, step 625)</u> ~~0vectors Block 425, step 625~~.

9. (Currently amended)   The method of claim 8, further comprising steering the beams and computing a beamformer output power in the principal direction and the trip line direction <u>(Block 425, step 630)</u>.

10. (Currently amended)   The method of claim 9, further comprising computing a value of background noise for the plurality of frequencies <u>(Block 425, step 635)</u>.

11. (Currently amended)   The method of claim 10, further comprising computing a signal to noise ration for each of the spectral components <u>(Block 430)</u>.

12. (Currently amended)   The method of claim 11, further comprising designating a look direction beam by retaining the spectral components in each of the beams that are greater than a threshold <u>(Block 445)</u>.

13. (Currently amended) The method of claim 12, further comprising assigning a bearing to a plurality of retained spectral components <u>(Block 450)</u>.

14. (Currently amended) The method of claim 13, further comprising retaining a plurality of components that fall within a bearing tolerance of each of a plurality of beams in the look direction <u>(Block 450)</u>.

15. (Originally submitted) The method of claim 14, further comprising counting a total number of the components in each of the look directions <u>(Block 455)</u>.

16. (Originally submitted) The method of claim 15, further comprising incrementing a trip line event counter if the trip line event counter is not previously set and an adequate time delay has occurred since the last trip line event.

17. (Currently amended) A system for detecting extended range motion and counting moving objects using an acoustics microphone array, the system comprising:

means for using an optimized beamforming process to create a plurality of acoustic beams comprised of a plurality of focused listening directions;

means for detecting the presence of one or more of a plurality of objects moving through the acoustic beams;

means for verifying that the objects are valid objects to be counted; and

means for verifying a plurality of valid directional information of the objects within the acoustic beams (Block 415).

18. (Originally submitted) The system of claim 17, further comprising means for computing a power spectrum for each of a plurality of acoustic beams.

19. (Currently amended) The system of claim 18 17, further comprising means for selecting a single loudest spectral component from a plurality of spectral components using a first beamforming process (Block 420, step 535).

20. (Currently amended) The system of claim 19, further comprising computing a bearing to each of the spectral components using the first beamforming process (Block 425, step 610).

21. (Currently amended) A system having instruction codes for detecting extended range motion and counting moving objects using an acoustics microphone array, the system <u>including a computer readable medium, and further</u> comprising:

a first set of instruction codes for using an optimized beamforming process to create a plurality of acoustic beams comprised of a plurality of focused listening directions;

a second set of instruction codes for detecting the presence of one or more of a plurality of objects moving through the acoustic beams;

a third set of instruction codes for verifying that the objects are valid objects to be counted; and

a fourth set of instruction codes for verifying a plurality of valid directional information of the objects within the acoustic beams (Block 415).

22. (Originally submitted) The system of claim 21, further comprising a fifth set of instruction codes for computing a power spectrum for each of a plurality of acoustic beams.

23. (Currently amended) The system of claim <u>22</u> ~~21~~, further comprising a sixth set of instruction codes for selecting a single loudest spectral component from a plurality of spectral components using a first beamforming process Block (420, step 535).

24. (Currently amended) The system of claim 23, further comprising a seventh set of instruction codes for computing a bearing to each of the spectral components using the first beamforming process Block (425, step 610).

25. (Currently amended) The system of claim 24, further comprising an eight set of instruction codes for generating a steering vector for each of a plurality of principal azimuthal directions (Block 425, step 610).